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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/435,940	11/09/1999	LEWIS V. ROTHROCK	042390.P5387	5902

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EXAMINER
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WALLACE, SCOTT A

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 07/30/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/435,940

Applicant(s)

ROTHROCK, LEWIS V.

Examiner

Scott Wallace

Art Unit

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6-9, 14-17, 22-25, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al., U.S. Patent No. 6,434,265.

4. As per claims 1, 9 and 25, Xiong et al discloses identifying first overlap information regarding where at least two digital images overlap at a first resolution level (column 4 lines 54-67); retrieving, overlapping areas of the at least two digital images at a second resolution level higher than the first resolution level based on the first overlap information (column 4 lines 54-67); and identifying second overlap information regarding where overlapping ones of the retrieved overlapping areas overlap at the second resolution level (column 4 lines 54-67). However, Xiong et al does not disclose purging memory, subsequent to said identifying, of the at least two digital images at the first resolution level. This would have been obvious to one of ordinary skill in the art at the time the invention was made because after comparing the overlapping areas at one resolution then if this didn't fit the error criteria then the next resolution is compared therefore the first one is no longer needed and therefore purged to make more memory available.

5. As per claims 6, 14, 22 and 27, Xiong et al discloses combining the at least two digital images (column 2 lines 34-38).

6. As per claims 7, 15 and 23, Xiong et al discloses identifying where the at least two digital images overlap at one or more resolution levels higher than the second resolution level (column 5 lines 27-33).

7. As per claims 8, 16 and 24, Xiong et al discloses identifying further, first overlap information regarding where another set of at least two digital images overlap at the first resolution level (column 4 lines 54-67); retrieving overlapping areas of the other set of at least two digital images at the second resolution level based on the further, first overlap information (column 4 lines 54-67); identifying further, second overlap information regarding where overlapping ones of the retrieved overlapping areas overlap at the second resolution level; and combining the digital images (column 4 lines 54-67).

8. As per claim 17, Xiong discloses all the limitations of claim 1 as seen above except for one or more processors. It was well know for computer system to have more than one processor to increase the speed of applications.

9. Claims 2, 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al in view of Tanimoto et al., U.S. Patent No. 4,622,632.

10. As per claims 2, 10 and 18, Xiong et al does not disclose wherein each of the at least two digital images are stored at the first and second resolution levels. It is disclosed in Tanimoto to store images at different levels of detail (column 2 lines 15-20) because this would allow faster speed when desiring an image at a specific resolution. Thus it would have been obvious to one of ordinary skill in the art to store the images of Xiong et al at different resolutions.

11. Claims 3, 11, 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al in view of Herman et al., U.S. Patent No. 6,075,905.

12. As per claims 3, 11, 19 and 26, Xiong et al does not disclose dividing each of the at least two digital images into a plurality of areas at the second resolution level and storing the plurality of areas at the second resolution level in the memory to identify where the plurality of overlap at the second

resolution level. This is disclosed in Herman et al in column 9 lines 1-27. It would have been obvious to one of ordinary skill in the art at the time the invention was made divide the images into a plurality of areas because this would improve the alignment of the images of Xiong et al.

13. Claims 4, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al in view of Hsieh et al., U.S. Patent No. 6,011,558.

14. As per claims 4, 12 and 20, Xiong et al discloses identifying where the at least two digital images overlap at the first resolution level and the identifying where overlapping ones of the areas at the second resolution level overlap (column 5 lines 1-10). However, Xiong et al does not disclose using an edge detection technique to identify overlap information. This is disclosed in Hsieh et al in fig 5 and column 5 lines 63-67 and column 6 lines 1-21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use edge detection to determine overlap because this was a fast method to see which edges both images had in common and therefore in the overlap region.

15. Claims 5, 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al in view of Schmucker et al., U.S. Patent No. 5,991,461.

16. As per claims 5, 13 and 21, Xiong et al discloses looking at where two images overlap at different resolutions. However, Xiong does not disclose identifying the coordinates the coordinates of the overlap regions. This is disclosed in Schmucker et al in column 5 lines 19-34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to identify the coordinates in the overlap regions because this would help ensure a more accurate and appropriate overlap region.

17. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al in view of Stansfield et al., U.S. Patent No. 5,140,314.

18. As per claims 28, 29, 30 and 31, Xiong et al does not disclose wherein the retrieving further comprises dividing each of the at least two digital images at the second resolution level into a plurality of tiles each having a size less than a threshold size. This is disclosed in Stansfield et al in fig. 3 and column 2 lines 68 and column 4 lines 10-23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to divide the image into tiles because this would improve the alignment of the images of Xiong et al.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Wallace whose telephone number is 703-605-5163. The examiner can normally be reached on Monday thru Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached on 703-305-9798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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